Update on the Implementation of the 2005/ARB Railroad Statewide Agreement

July 20, 2006

California Environmental Protection Agency

Air Resources Board

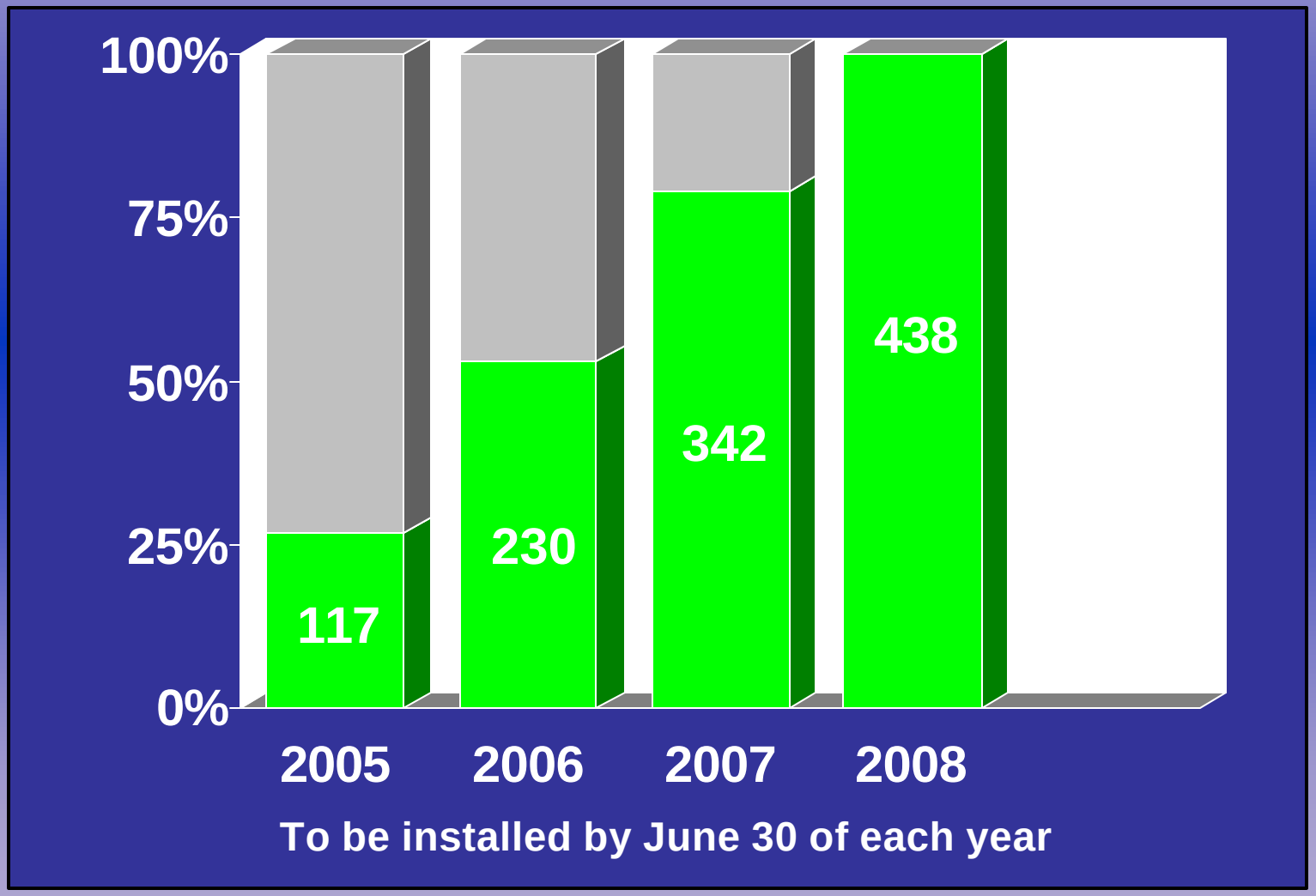
What this Progress Report Covers

- Installation of idle reduction devices
- Limit non-essential idling
- Use ultra-low sulfur diesel fuel
- Identify and repair smoking locomotives
- Conduct health risk assessments
- Conduct locomotive remote sensing pilot program
- Evaluate future locomotive emission control technologies

IMPLEMENTATION UPDATE

Idle Reduction Devices on 438 Intrastate Locomotives

(UP and BNSF)



California is Ahead of the Nation on Switch Locomotive Idle Reduction Device Retrofits

- **California: 53%**
- **National: 28%**

CARB and Low Sulfur Diesel Fuels

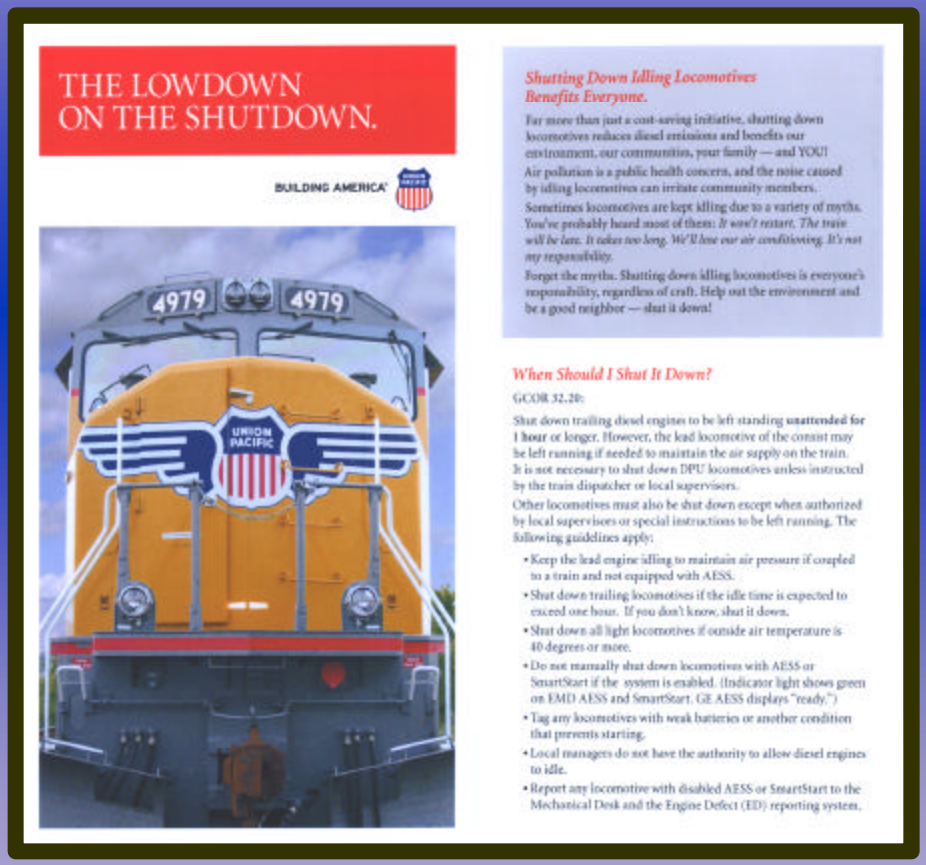
- CARB diesel for intrastate locomotives by 1/1/2007: <u>On schedule</u>
- Low sulfur (15 ppm) diesel fuel dispensed into most locomotives by 1/1/2007: <u>Implement early</u>

Diesel Storage Tanks

Diesel Fueling Rack

Railroad Idle Reduction & Visible Emission Training

- 4,400 employees trained by June 30, 2006
- Railroads eventually will train 6,000 employees



THE LOWDOWN ON THE SHUTDOWN.

BUILDING AMERICA

Shutting Down Idling Locomotives Benefits Everyone.

Far more than just a cost-saving initiative, shutting down locomotives reduces diesel emissions and benefits our environment, our communities, your family — and YOU!

Air pollution is a public health concern, and the noise caused by idling locomotives can irritate community members.

Sometimes locomotives are kept idling due to a variety of myths. You've probably heard most of them: *It won't restart. The train will be late. It takes too long. We'll lose our air conditioning. It's not my responsibility.*

Forget the myths. Shutting down idling locomotives is everyone's responsibility, regardless of craft. Help out the environment and be a good neighbor — shut it down!

When Should I Shut It Down?

GCOR 32.20:

Shut down trailing diesel engines to be left standing **unattended for 1 hour** or longer. However, the lead locomotive of the consist may be left running if needed to maintain the air supply on the train. It is not necessary to shut down DPU locomotives unless instructed by the train dispatcher or local supervisors.

Other locomotives must also be shut down except when authorized by local supervisors or special instructions to be left running. The following guidelines apply:

- Keep the lead engine idling to maintain air pressure if coupled to a train and not equipped with AESS.
- Shut down trailing locomotives if the idle time is expected to exceed one hour. If you don't know, shut it down.
- Shut down all light locomotives if outside air temperature is 40 degrees or more.
- Do not manually shut down locomotives with AESS or SmartStart if the system is enabled. (Indicator light shows green on EMD AESS and SmartStart. GE AESS displays "ready.")
- Tag any locomotives with weak batteries or another condition that prevents starting.
- Local managers do not have the authority to allow diesel engines to idle.
- Report any locomotive with disabled AESS or SmartStart to the Mechanical Desk and the Engine Defect (ED) reporting system.

Railroad
Visible Emission Inspections

- First six months of 2006
- Over 8,300 opacity inspections
- 99% compliance rate

Health Risk Assessments (HRAs)

- Release Guidelines in July 2006
- Hold public workshops in August
- Receive emissions data this summer
- Complete draft HRAs by:
  - December 31, 2006 for 9 yards
  - December 31, 2007 for 7 yards

Remote Sensing Pilot Program

(AB 1222 – Jones)

- Developing program to identify high-emitting locomotives
- Working with Advisory Committee:
  - South Coast and Sacramento air districts
  - UP and BNSF
  - Environmental representatives
- Testing this summer
- Report to Legislature 12/31/2006

Technology Assessments

- Diesel particulate filter retrofits on two older switch locomotives (Oakland and LA)
- Diesel oxidation catalyst retrofit on a 1992 line haul locomotive (Los Angeles)
- Trip to Europe in May 2006.
  - ARB and SCAQMD
  - UP, Catepillar, General Electric
  - SWRi and Miratech (HUG)

Technology Assessments Con't

- **Technology Symposiums – Future Control Measures**
  - **April 25, 2006 – ARB El Monte**
  - **July 13, 2006 – Cal/EPA Sacramento**

ARB Enforcement Activities

- Trained 45 ARB and Air District Inspectors
- Conducted inspections at 31 railyards
- Observed nearly 700 locomotives
  - Idling & Visible Emissions
- Issued 23 NOVs – 96% compliance rate

OTHER ACTIVITIES

New Lower Emitting Line Haul Locomotives

- UP and BNSF operate 14,000 line haul locomotives nationwide
  - 4,000 new locomotives bought since 2000
    - Most built with idle reduction devices
    - 700 are brand new Tier 2 locomotives
- New locomotive emissions benefits
  - Up to 65% NOx
  - Up to 50% less PM
- Many operating in California

Low Emitting Switch Locomotives (California)

- **438 California-based locomotives (UP and BSNF)**
- **New low emitting switch locomotives**
  - **69 Gen-Sets**
  - **12 Electric-Hybrids (Green Goats)**
  - **4 LNG Fueled**
  - **90% reduction in NOx and diesel PM**
  - **20% of intrastate locomotive fleet**
- **Incentive funds can accelerate progress**

Designated and Covered Railyard Visits

- **Visits to Assess:**
  - Types of operations
  - Relative levels of activity
  - Proximity of residences and businesses
- **Designated Railyards Visits**
  - Completed February 2006
- **Covered Railyard Visits**
  - Seven yards to date

Community Activities

- 17 Local Community Meetings
  - Identify local community concerns
  - Discuss possible mitigation measures
  - Completed in June 2006
- Next set of community meetings in 2007
  - Health risk assessments
  - Additional railyard mitigation measures

Community Complaint Process

- Established procedures to process, handle, and respond to community complaints.
- Each railroad utilizes a national phone call center that operates 24/7.
- Union Pacific Railroad
  - 1.888.UPRR.COP or 1.888.877.7267
- BNSF Railway
  - 1.800.832.5452

Summary

- Implementation on schedule
- Lower emitting locomotives entering service
- Technology assessments underway
- Health Risk Assessments are on schedule
- Enforcement activities ongoing
- Community meetings ongoing
- Update in six months